THE

BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXVIII. THURSDAY, JULY 23, 1863. No. 25.

CASE OF HÆMOPTYSIS, WITH PECULIAR PHYSICAL SIGNS.

[Read before the Boston Society for Medical Improvement, and communicated for the Boston Medical and Surgical Journal.]

BY S. L. ABBOT, M.D., PHYSICIAN TO OUT-PATIENTS AT THE MASSACHUSETTS GENERAL HOSPITAL.

MR. C., a young man, 25 years of age, a tailor by trade, of previously fair health, was suddenly seized with a violent attack of hæmorrhage from the mouth, accompanied by retching, and without antecedent cough. Two similar attacks followed within the space of a week. Another physician whom he had consulted regarded the case as one of hæmatemesis, and there were several circumstances about it calculated to give this impression. It was found, as has been observed, that the bleeding was accompanied by severe retching, and on pressure at the epigastrium a very sensitive spot was detected, about four inches below the ensiform cartilage, over which croton oil had been applied by the advice of the gentleman previously consulted.

On making examination of the case, it was found that the patient had not been subject to cough, but had been troubled with a catarrhal affection of the throat, with over-secretion from the follicles of the tonsils. In clearing the throat in the morning from the collected secretion of the night, it was quite a common occurrence with this patient, as so often happens in such cases, for the attempt to excite nausea and retching. His throat belonged to that sensitive class in which the slightest touch produces this effect. On questioning him carefully, it appeared that the sudden flow of blood into the mouth was the first phenomenon, and that its presence there and the attempt to clear the throat as it rapidly welled up, brought on the retching. There was no vomiting of food. It thus became evident that the effort at vomiting was secondary to the bleeding. The same effort would seem to explain the soreness at the epigastrium, which still continued and which seemed to be muscular. The patient was not aware of the existence of the sensitive spot until it was forcibly pressed upon, and had had no symptoms at any time previous referable to the stomach. Neither was there any evidence of blood in the alvine evacuations, as there probably would have been in case of such profuse hæmorrhage, if from the stomach.

The pulmonary physical signs in this case were peculiarly interesting. There was moderate dulness on percussion in the upper half of the left front chest, with rather coarse respiration, but no crepitus on inspiration, or excited by cough; but during the diastole of the heart, while the lungs were in the act of expiration, there was a peculiar crepitus, extending from a point over the aortic valves in an oblique line down nearly to the left nipple, synchronous with the diastole, and thus heard several times during a single act of expiration. The sound was very peculiar, and at once suggested the compression of a portion of lung, from which the air did not easily escape by the natural elasticity of the part, between the heart and the walls of the chest. It suggested to the ear very much what is felt to the touch when a portion of crepitating dead lung is pressed between the fingers. This sign was unmistakable, and was observed constantly, gradually diminishing as the condition of the patient improved, and as the cough grew less, until it was limited to a spot of about an inch in diameter over the base of the heart. It was worthy of note that this sign was perceptibly less on the day after a slight return of bleeding, which seemed to have relieved the engorged tissue. I could not doubt that it was produced by compression by the heart, while filling with blood, of the overlying edge of the upper lobe of the left lung, which was in a state of congestion. In confirmation of this theory it was remarked, that when the lung was fully inflated and the respiration was suspended for a few moments, the sound ceased; the pressure produced by the heart's diastole not being strong enough to squeeze out, so to speak, the enclosed air, as it did when the act of breathing was uninterrupted.

Another sign in this case was one which has been mentioned of late by writers as an early symptom of phthisis,* or solidification of the lungs by tubercles, namely, a systolic souffle heard over the condensed portion of tissue, attributed to more or less compression of the arch of the aorta, or the large arteries given off from it, by the solidified lung. In these cases the sounds of the heart at the apex and at the base are heard perfectly unmodified; but, on following up the vessels towards the summit of the lung, the souffle is distinctly heard in the situation of the dulness on percussion. I have heard this sound recently in two cases of persistent dry cough, with rational signs of commencing phthisis, but without crepitus, and am inclined to attach much value to it as an early warning of the disease. In the present case this sign was very marked in the upper front third of the left lung, and clearly pointed to a partially condensed condition of that lung. As the case progressed and the condition of the patient improved, this sign also gradually diminished, although it has not entirely disappeared. I regard it as an unequivocal evidence of more or less solidification. Thus, in this case, there have been two signs of pulmonary condensation—one caused by the compression of lung tissue by the organs of circulation, the other by compression of the organs of circulation by the lung tissue.

---

* See article on page 175, Vol. Lxvii., of this Journal, entitled "On Arterial Murmurs in Incipient Phthisis." By W. S. Kirkes, M.D., Assistant Physician to, and Lecturer on Medicine at St. Bartholomew's Hospital.

CASE OF DIPHTHERIA, WITH TRACHEOTOMY. RECOVERY.

By E. A. Pond, M.D., Rutland, Vt.

[Communicated for the Boston Medical and Surgical Journal.]

Wednesday, May 27th, 1863, was called, in consultation, to a case of diphtheria. The case presented the usual, ordinary symptoms. The tonsils and posterior portion of the fauces were covered with yellowish-white membrane; the anterior and upper portions of the throat intensely red. A mixture of chlorate of potassa, tincture of muriate of iron and muriatic acid was at once applied, and also administered internally. The voice was nearly gone, and the cough and breathing croupy.

28th, 29th, 30th.—The upper part of the throat appeared to improve, but there was a gradual increase of the croupal symptoms, and from the great obstruction to breathing, shown by the livid appearance, it was evident that the child was dying. There was considerable enlargement of the glands about the neck, a part of which had existed since an attack of scarlet fever, about a year ago. The glandular enlargement finally suppurated and discharged through the mouth. Saturday morning, seeing the child was sinking, I performed the operation of tracheotomy, it being evident that life could not continue much longer, so urgent were the symptoms.

The relief was very marked, and half an hour after the child's countenance assumed quite a rosy appearance, and there was free expectoration through the tube of membranous shreds and mucus. Before the afternoon expired, we felt very hopeful of success. A tonic course of quinine, iron and wine was liberally and regularly administered, with a generous diet. During the night the child slept somewhat. On the morning of the 31st he seemed quite comfortable, breathing entirely through the tube. The throat rapidly improved until the 5th of June, when bloody expectoration and bronchial irritation increased, and an erysipelatous inflammation showed itself and spread nearly to the point of the shoulder and down on the chest.

June 6th.—Fearing the extending irritation, the canula was removed. The parts were moulded to the canula, and a perfect opening was left through which the child breathed and expectorated freely. On covering the opening, symptoms of suffocation were induced; the canula was not replaced, however, to avoid all possible bronchial irritation. Great care was exercised to keep the opening clear of all obstructions until the natural breathing was gradually restored.

The canula was large and double, and kept constantly clean. Anodynes were administered occasionally, to allay restlessness. The case improved, without any serious disturbance, and on the fourteenth day after the operation the patient could speak aloud. On the 17th, the opening had entirely closed, and the patient was constantly gaining in strength and flesh. At present, the 24th, he has entirely recovered.

ON THE DIAGNOSTIC VALUE OF AN ACCENTUATED CARDIAC SECOND SOUND.

By J. Warburton Begbie, M.D., Physician to the Royal Infirmary.

It is now universally admitted that the second sound of the heart is produced during the act of closure of the semilunar valves in the orifices of the aorta and pulmonary artery. The sudden tension of the membranous structure of which these valves are composed is a sufficient, possibly the *only*, cause of the sound. It is, however, probable that, as generally held, the recoil of the blood against the valves contributes to its production.

Careful clinical observation has materially aided the direct experiments which, at a former period, were made regarding the heart's sounds. As respects the second sound, it may indeed be concluded that, by the former means of research, much left unfulfilled by the latter has been supplied. For example, I may refer to one or two particulars of importance, which have a special bearing on the subject of this paper. When the second sound is entirely replaced over the base of the heart by a murmur, it is not audible over the ventricles, and is not to be detected at the apex of the organ. In other words, when the murmur of aortic regurgitation is so loud as to drown all normal second sound, preventing, by its very loudness, the recognition of the pulmonary second sound over the pulmonary valves, or in their immediate neighborhood, where the second sound originating there is most readily heard, it cannot be detected even in small part over any other portion of the heart. Here, however, there are some points worthy of special observation; they concern what may be called exceptional cases of aortic insufficiency. A diastolic murmur may largely obscure, but not obliterate, the second sound over the aortic valves, a portion of it remains; and in such cases, the pulmonary second sound being either readily appreciable or at least audible, the murmur diminishing in loudness as the stethoscope is placed over the ventricles, the normal second sound, pulmonary in origin, or the portion of aortic second sound which remains, is with greater readiness discovered there, or even at the left apex, than at the base. In endeavoring to account for this circumstance, it must be held in remembrance that the murmur of aortic regurgitation is not conducted with anything like the same distinctness over the ventricles as it is down the course of the sternum to the very limit, in some instances, of the ensiform cartilage itself. I have found not unfrequently that the second sound, greatly obscured by murmur at the base, and having precisely the same character at the end of the sternum, has been partially unclouded at the left apex, and over the ventricles a little less so. In such instances, it has not been difficult to determine that the more ready recognition of the sound in the latter situations has been due to the loss in distinctness sustained by the murmur.

Dr. Walshe has noticed "a distinct sound at the left apex in more than one case, while at the aortic base the ordinary regurgitant murmur alone existed."* So also in cases in which the second sound at the base is only feebly heard—no murmur existing—there may be, if not a loud, at all events a more readily recognized second sound near or at the apex. To such instances Skoda has directed attention, and they have likewise been fully considered by Dr. Walshe. In explanation of their occurrence it may be, as Skoda has suggested, and Dr. Walshe is disposed to allow, that some of the phenomena occurring during the diastolic action of the ventricles, which are properly, or rather naturally, soundless, become attended by sound—in other words, produce a second sound of their own; or it is equally conceivable—although perhaps not fully established—that certain diseased states in existence may determine a sound bearing a resemblance, more or less exact, to the normal diastolic sound of the heart.

These few observations I have made by way of preface to the statement of great practical value which I now wish to consider—That an accentuated condition of the heart's second sound is heard in connection with one or other of two conditions of disease—aneurism of the aorta, or dilatation of the aorta. It is hardly necessary to say, that no account is taken here of the by no means uncommon phenomenon of an accentuated pulmonary second sound. All careful auscultators know of how much value that phenomenon is in relation to the condition of mitral valve constriction. In describing the heart's second sound as accentuated in the instances of aortic aneurism and aortic dilatation upon which the present observations are based, it is perhaps necessary to explain that the expressions, intensified, or greatly pronounced, would equally well indicate the character of the sound which has been found to exist. When occurring under the circumstances referred to, the accentuation of the second sound is always well marked. I have frequently observed that early auscultators have, unaided, noticed the peculiarity, while very rarely indeed has there been any difficulty attending its recognition by such, when their attention has been called to the subject. In a case of aortic aneurism under my care last summer, there existed so accentuated a second sound over the base of the heart as to arrest the notice of all who examined the patient by auscultation. Several students, merely tyros in the art, readily recognized the *booming* character of the sound.

---

* Diseases of the Heart, 3d edition, page 65.

When the accentuated second sound occurs in connection with aortic aneurism or aortic dilatation, it may be presumed that the semilunar valves are competent. Their insufficiency and the occurrence of an accentuated second sound are inconsistent; if the former lesion be in existence, a diastolic murmur is the necessary result. The influence of valvular disease in the production of murmurs in cases of aortic aneurism is a point of the greatest importance for consideration. There may be, of course, associated mitral valve disease, or tricuspid disease, and, if so, murmurs may be thus originated; but such association is to be regarded rather in the light of an accidental coincidence, and not by any means of the same importance as the occurrence of disease of the aortic valves. Judging from cases of aneurism which have come under my own observation in hospital, I conclude that it is very common to find aortic valve insufficiency in connection with aortic aneurism; while in such cases the diastolic murmur, usually a very loud or at least very distinct one, so characteristic of the former lesion, is the most prominent auscultatory phenomenon. The cases now referred to are very evidently not cases of valvular disease in the first instance, and subsequently of aneurism; in none has there been any foregoing attack of rheumatism, in none any distinct rheumatic history. Neither are they examples of a mere accidental association. The relation of the valvular imperfection to the aneurism is, I believe, of the greatest interest and importance, and in all, its occurrence has been subsequent to the disease of the vessel. If an aortic aneurism attain to any considerable dimensions, and affect the ascending portion of the arch, the aortic valves are rendered incompetent; and being so, we shall find the auscultatory phenomenon connected with the latter lesion in existence, and likewise the other physical signs which afford such evidence, especially the well-known peculiarities in the pulses, as pointed out by Dr. Corrigan and Dr. Henderson. I never remember to have seen an instance of aneurism of the aortic arch within the pericardium of any considerable size unattended by diastolic murmur—the diastolic murmur of aortic valve insufficiency. On the other hand, the prominent physical signs of aortic insufficiency have led me—and no doubt the same error has been committed by others—to overlook the existence of aneurism altogether. Dr. Haldane has in his possession a preparation of a large aortic aneurism, removed from a patient who had been under my own observation, as well as at different times under the care of three hospital physicians. In this case the signs of insufficiency of the semilunar valves were of unusual distinctness, and so, during the patient's life, the existence of that lesion was recognized, while the aneurism escaped detection till after death. The fatal event occurred suddenly, not from rupture of the aneurism, but after the mode in which a very sudden termination not unfrequently takes place in cases of aortic insufficiency. With these facts before us, how necessary is it to make a careful use of the other means of diagnosis, in addition to auscultation, which we possess.

There is no diseased condition within the chest which gives rise to so many and different auscultatory signs as aneurism. I have no intention at present of making any detailed reference to these. My remarks will be limited now to one peculiarity—the *accentuated* second sound. Here I purposely avoid making any mention of the systolic cardiac sound. Of course, in all cases, it is of importance to determine its true state, whether pure, or itself accentuated, or attended by murmur; any of these it may be, while the accentuated character of the second sound prevails. Now, as the result of careful observation and continued attention, I have found that, excluding the accentuated pulmonary second sound, and the intensified aortic second sound in some cases of hypertrophy and dilatation of the left ventricle, the accentuated second sound in the aorta is an indication of aortic aneurism, or of dilatation of the aorta associated with atheromatous degeneration. If it be the former, the aneurism probably does not arise within the pericardium, and probably does not affect the ascending portion of the arch, but has, most likely, its seat in the transverse portion; it may, however, arise at an earlier part of the aorta, as was found in the following case:—

Aneurism of the Aorta, pointing externally, bursting through the Lung into the Left Pleura.—S. M., æt. 36, under my care in the Infirmary, Ward V., during August and September, 1862. Between the second and third left ribs, near their cartilages, a pulsating tumor was detected on the patient's admission. On aucultation a soft bruit was audible over the tumor; and at the base of the heart, as well as over the upper bone of sternum, a very loud ringing second sound. The latter phenomenon never varied during the patient's six weeks' residence in the hospital. He died suddenly, after expectorating a little blood. On examination of the body after death, serous fluid and coagulated blood, to the amount of more than half a gallon, were found in the cavity of the left pleura; the heart was pushed downwards and backwards; it weighed fourteen ounces. *The valves were perfectly healthy.* An aneurism was found commencing abruptly an inch and a half above the semilunar valves—the whole vessel suddenly dilating to a point immediately beyond the origin of the left carotid, where the dilatation as suddenly ceased. The pouch so formed was six inches in length; it passed behind and was applied to the back of the manubrium sterni, and made its appearance externally between the second and third left ribs. The left extremity of the sac was intimately united to the left lung, the edge of which had become thinned by pressure, and the pleura having then given way, allowed the escape of the aneurismal contents into the pleural sac.*

In the foregoing case, the peculiarity of the second sound was of comparatively little value in leading to the recognition of the aneurism, other and still more distinctive signs, especially the visible pulsating tumor, of that condition being in existence; but the accentuated sound led to the diagnosis of the competency of the semilunar valves, which post-mortem examination confirmed. In the following case the accentuated second sound was the earliest noted reliable sign of aortic aneurism.

W. M'A., æt. 35, a hawker, was first seen by me in March, 1862, complaining of slight chest symptoms, particularly cough and expectoration of a little phlegm. Had not been a sober man.

Condition on first examination.—Has a slight bronchitic affection. Heart's second sound markedly accentuated over the aortic valves. No other auscultatory phenomenon connected with heart or great vessels.

I had frequent opportunities of seeing and examining this man up to November 6th, when he entered the Infirmary, becoming a patient in Ward IV. During this time his general health had failed considerably; he had become thinner, feebler, less able for his occupation, though still moving about and doing something as a traveller.

On 6th November, the following notes of his condition were made. Has been suffering from dyspnœa, which has seized him on a few occasions suddenly, and without any previous effort or exertion having been made. Cough is somewhat clanging in character. Has some pain and peculiar sense of weight in region of sternum. Over the left portion of manubrium there is visible pulsation—the latter readily distinguished on pulsation. Left radial pulse is feebler than right. Murmur of soft blowing character accompanies first sound over the seat of pulsation, and is heard less distinctly over the base of heart. The second sound at base is of a loud *booming* character. Respiratory sounds in upper part of left lung, feeble. Posteriorly there is a little bronchial stridor.

This man, so far as I know, survives; he left the Infirmary about eight weeks since. With such signs as those detailed, the existence of aneurism becomes unquestionable; they have become gradually developed in succession to the accentuated second sound, the earliest noticed of all.

---

* The post-mortem examination was performed by Dr. Haldane, at that time Pathologist to the Royal Infirmary, and the account given above has been abbreviated from his record of dissections.

Of this kind I might furnish other examples; several are known to me, and the opportunity has occurred for directing the attention of students to these, in the ordinary course of clinical instruction.

I have further to remark, that a similar condition of the second cardiac sound may be caused by dilatation of the aorta, associated with more or less of atheromatous degeneration. To distinguish between the two—in other words, to know when the accentuated second sound is due to aneurism and when to dilatation of the aorta, is not always easy. Reliance is chiefly to be placed on the associated physical signs in the former case, more particularly prominence, pulsation, extended percussion dulness, and the signs of internal pressure. If atheromatous dilatation exist, and that is the special condition, independent of aneurism, which gives rise to the accentuated second sound, there will probably be more or less pulsation in jugular fossa, atheromatous condition of superficial pulses (radials, temporal arteries, &c.) noticeable, and probably the arcus senilis.

The following points appear to me to be of importance in endeavoring to explain the mechanism of an accentuated second sound, under the circumstances now considered:—

1. The condition of the vessel, both in cases of aneurism and of dilatation with atheromatous degeneration, being such as greatly to diminish, if not to destroy, the support given to the circulation by the artery, there results an increased recoil of blood on the closing or closed valves.

2. It is possible that a morbid condition of the valvular apparatus itself heightens or intensifies the sound. The valves are not incompetent, but in such cases they are sometimes found thickened, and even presenting a hard surface at parts.

3. Something may, I conceive, be due to the increased calibre of the vessel, in connection with the altered condition of its internal tunic, in causing the peculiarity of sound.

But in whatever way the phenomenon is to be correctly explained, there can be no doubt of its existence being entitled to very considerable value as a clinical fact. I have noticed that the accentuated second sound is most readily appreciable over the aortic valves in both conditions. In the cases of dilatation of the aorta it has, however, been more decided in character over the manubrium sterni than in aneurismal cases. I may add, that in the majority of cases observed by myself, in which the accentuated second sound has existed under the circumstances now detailed, the expression, *booming* second sound, or second sound with *ringing boom,* has best described the acoustic character of the sound itself. I have known the booming sound to continue for many weeks, and in one remarkable case of aneurism lately observed (Walker, in Ward V., and afterwards in Ward IV.), for months, and thereafter become at first obscured, and ultimately entirely replaced by a loud diastolic murmur, telling plainly that the semilunar valves had become insufficient owing to the extension of the disease towards the heart.—*Edin Med. Jour.*

Reports of Medical Societies.

EXTRACTS FROM THE RECORDS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT. BY FRANCIS MINOT, M.D., SECRETARY.

JUNE 8th.—*Two cases of Partial Necrosis of the Tibia, with extensive Inflammation of the Bone, and with Anchylosis of the Ankle- and Knee-joints.*—Dr. WARREN showed the specimens.

CASE I.—Charles W. Clements, 19 years old, had a sharp attack of erysipelas in the right leg four years ago, which was accompanied by severe constitutional symptoms. In the course of the disease an ulceration appeared over the spine of the tibia, the knee- and ankle-joints both became stiff, the former in a bent position. At the same time he had a severe attack of pain in the left hip and thigh, which was supposed to be of a rheumatic character, and when he was able to leave his bed, the head of the femur was found to be dislocated backwards, where it can now be distinctly felt on the dorsum of the ilium; the leg is much inverted.

His right knee was formerly anchylosed at nearly a right angle; the integument was adherent along the spine of the tibia, and presented marks of old ulcerations. Through various fistulous openings rough bone could be felt, but nowhere in a detached state; small bits of bone have been occasionally removed, but never any extensive sequestra. The diseased leg was entirely useless; the dislocated limb he used in walking, with the aid of crutches. Amputation was performed about a hand's breath above the knee-joint.

The bone was nicely sawed through in a perpendicular direction, by Dr. Hodges; it presented a very interesting pathological condition. The patella was firmly anchylosed to the femur, and made a part and parcel of it, the reticular structure of the one running into that of the other. The cavity of the knee-joint was filled with fat, the femur and tibia being joined together by firm lateral bridges of osseous matter. The whole bone was in a state of chronic inflammation, the medullary cavity being almost obliterated, and the bony cylinder greatly thickened, and in parts very much indurated. In one or two parts a deficiency was observed in the bone, where necrosis had taken place to a very limited extent. At the ankle-joint the astragalus was found completely fused with the tibia, and the os calcis and other of the tarsal bones with the astragalus.

CASE II.—Sarah Mara, 23 years old, entered the Hospital April 22d, 1863, with what was supposed to be an extensive necrosis of the left tibia. The disease had commenced two years before, with an inflammation of the knee and leg, attended with great swelling of the knee-joint, and coming on as a sequel to a fever. During this time, and since, the limb has been the seat of severe pain. Pieces of bone have been removed from the leg, from time to time, and it is covered with the marks of old ulcerations. The outline of the tibia is enlarged and irregular, and the skin over it is thickened and œdematous. The patella is displaced downwards and outwards, and she has undergone seven operations for the purpose of having it restored to its normal position. On account of the swelling of the knee, and weakness in the ligaments, the support given by it is very slight, and progression is slow and painful. The patient, therefore, had made up her mind to have the limb removed, and have it replaced by an artificial substitute, rather than undergo a protracted treatment of doubtful result. She remained in the Hospital three or four weeks before the operation, and at the end of this time a swelling appeared at the upper part of the popliteal space, indicating deep-seated mischief. The amputation was performed, at the same point as in the preceding case, May 30th, 1863.

On a like perpendicular section being made, the following appearances were presented. The ankle- and knee-joints were the seat of false anchylosis; the bone was everywhere thickened and indurated, and the medullary canal was almost obliterated. Fistulous openings led from the integument to small spots of carious bone, and at one point there was a bit of bone, about two inches long, partially separated from the rest. One end of it tipped backward towards the central cavity of the bone, but was connected by soft parts to the surrounding osseous tissue, and still retained vitality.

If it had not been for accidental circumstances, requiring amputation in both these cases, they might have gone on under treatment for an indefinite period, waiting for the separation of dead bone, as in ordinary cases of necrosis. The circumstance of the dislocation of the left hip in the former case, produced by its rheumatic condition, and its subsequent useful state, is worthy of remark. Both cases are progressing favorably.

JUNE 8th.—*Obstruction of the Pulmonary Artery.*—Dr. ELLIS showed the specimen, which came from an unmarried woman who died in the Hospital, in Dr. GAY's Wards. She entered, May 27th, for a varicose ulcer of the leg, and on June 3d was found to be feverish and weak, with a troublesome cough and bronchitic sputa, without apparent cause. The symptoms increased, and on the 5th she had great dyspnœa on the least attempt at motion. The pulse was quick and weak, and the heart's sounds very indistinct. Percussion showed nothing abnormal, but the respiration had a blowing sound, and the expiration was prolonged. She died on the 7th, all the symptoms having steadily increased.

At the *post-mortem* examination the pulmonary artery, from the bifurcation as far as it could be traced into the substance of the lung, was filled with firm coagula, which had evidently formed some time before death. Though apparently filling the artery, they did not adhere to the walls. Portions of them were of a pale-red color, and somewhat granular. There was some œdema of the pulmonary tissue, but in other respects it looked normal. The mucous membrane of the trachea and bronchia was somewhat reddened. The heart was softer than usual, and the tissue had a fatty appearance under the microscope. The uterus contained a fibrous tumor, between three and four inches in diameter. Its mucous membrane was smeared with reddish mucus.

JUNE 8th.—*Rupture of the Septum of the Heart.*—Dr. ELLIS showed the specimen, which came from a patient who had been crushed between two railroad cars which he was shackling, and who died shortly after being brought into the Hospital. Although the muscular strength was good when he entered, the excessively feeble pulse led Mr. Adams, the house pupil, to diagnosticate a lesion of the heart. One or more ribs were found to be fractured on the left side.

At the autopsy the sternum was found to be fractured transversely at the junction of the lower and middle thirds, without displacement.

The fourth, fifth and sixth ribs of the left side were fractured about midway between their extremities. Several ecchymoses were found on the anterior surface of the heart, beneath the pericardium. The ventricular septum was so extensively lacerated, transversely, that a large free opening existed between the ventricles. There was also a superficial linear laceration of the auricular septum, just beneath the lining membrane near this part.

Bibliographical Notices.

The Action of Medicines in the System; or, On the Mode in which Therapeutic Agents introduced into the Stomach produce their peculiar effects on the Animal Economy. Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1852. By FREDERICK WILLIAM HEADLAND, M.D., B.A., F.L.S., &c. &c. Fourth American Edition. Philadelphia: Lindsay and Blakiston.

THE fourth edition of this valuable work needs no new word of praise to be said in its behalf. It should have a place on the study table of every physician, and if often consulted, as it should be, cannot fail to give clearness to his views of the action of remedies, and lead him to prescribe understandingly what too many of us are apt to administer as a mere matter of routine. It is greatly to be regretted that there is so little exact study of the action of remedies by the profession at large, or at any rate, that so little of the result of their experience is published. We hope that the movement commenced in some of our district societies may lead to important results in this wide field of research. This book is very handsomely printed.

A Practical Handbook of Medical Chemistry. By JOHN E. BOWMAN, F.C.S., formerly Professor of Practical Chemistry in King's College, London. Edited by CHARLES L. BLOXAM, Professor of Practical Chemistry in King's College. Third American from the Fourth and Revised London Edition. With Illustrations. Philadelphia: Blanchard & Lea.

THE fourth edition of this invaluable text-book of Medical Chemistry was published in England in October of the last year. The Editor has brought down the Handbook to that date, introducing, as far as was compatible with the necessary conciseness of such a work, all the valuable discoveries in the science which have come to light since the previous edition was printed. The American publishers have done well to re-produce it in this country at so early a date. The work is indispensable to every student of medicine or enlightened practitioner. It is printed in clear type, and the illustrations are numerous and intelligible.

Physiological Memoirs. By WILLIAM A. HAMMOND, Surgeon-General U. S. Army, &c. &c. Philadelphia: J. B. Lippincott & Co. 1863. Pp. 348.

THIS handsome volume contains thirteen essays on various interesting physiological subjects, most of which have been published at different times in the *American Journal of the Medical Sciences.* Two of them, on two new varieties of Wourara, are the joint result of the researches of Dr. S. Weir Mitchell, of Philadelphia, and Dr. Hammond. The essays are upon important topics, such as the laws determining the quantity of urea eliminated by the kidneys, the physiological effects of tobacco and alcohol on the system, the nutritive value of certain articles of food, the action of various medicines, &c. Most of these papers are illustrated by carefully-conducted experiments by the author upon himself. The whole collection is very interesting, and will do much to sustain the reputation of the surgical head of our armies as a calm and faithful observer, and an unprejudiced student of the laws of human physiology.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JULY 23, 1863.

Physicians' Certificates of Exemption from the Conscription.—We presume there is scarcely one of our readers who has not been already, or who will not be called upon by many of his patients, who may have been drawn for military duty under the conscription act, for information as to whether their particular infirmities do or do not disqualify them for the life of a soldier, and to ask for certificates in relation to their cases to present to the examining surgeon. It is the duty, therefore, of the family physician to thoroughly acquaint himself with the conditions of the law of exemption, not so much on account of the interests of his patient, as to lighten as much as is in his power the labors of the Board of Enrolment. Many cases must present themselves for examination to the surgical officer of peculiar difficulty, and upon which it will be impossible for him to give a decision, if conscientious in the discharge of his duties, without some other testimony than the mere statement of the person conscript. Let no physician or surgeon imagine that he may appear desirous of throwing obstacles in the way of government, or of interfering with the duties of the enrolling officers, by furnishing to all who may apply to him certificates as to what he may know in relation to the applicant's past or present physical condition of a nature to render him unfit for the service of his country in the field. On the contrary, we are informed by the examining surgeon of one of the largest districts that such information is what he is particularly desirous of obtaining, as by this means he is better able to carry out his instructions in that spirit of leniency he is so strongly disposed to show in the discharge of his trying duties. Now that the War Department has so revised one of the terms of the Act as to allow a person to procure a substitute, or to pay the equivalent sum of three hundred dollars for one, *after* having been before the Board for examination, it is probable that the duties of the examining surgeons will be much increased, and any aid of the nature above alluded to will be the more thankfully received. It must be remembered, however, that the certificate thus given must be sworn to before a justice of the peace in every instance, or else it will not be received, and that in no case is it of any avail to its holder until it is presented in person to the Board of Enrolment.

Below will be found the official list, published by the Bureau of the Provost Marshal-General, of the diseases or infirmities which disqualify for military service.

"1. Manifest imbecility or insanity.

"2. Epilepsy. For this disability, the statement of the drafted man is insufficient, and the fact must be established by the duly attested affidavit of a physician of good standing, who has attended him in a convulsion.

"3. Paralysis, general, or of one limb, or chorea—their existence to be adequately determined.

"4. Acute or organic disease of the brain or spinal cord; of the heart or lungs; of the stomach or intestines; of the liver or spleen; of the kidneys or bladder—sufficient to have impaired the general health, or so well marked as to leave no reasonable doubt of the man's incapacity for military service.

"5. Confirmed consumption; cancer; aneurism of the large arteries.

"6. Inveterate and extensive disease of the skin, which will necessarily impair his efficiency as a soldier.

"7. Decided feebleness of constitution, whether naturally or acquired.

"8. Scrofula, or constitutional syphilis, which has resisted treatment, and seriously impaired his general health.

"9. Habitual and confirmed intemperance, or solitary vice, in a degree sufficient to have materially enfeebled the constitution.

"10. Chronic rheumatism, unless manifested by positive change of structure, wasting of the affected limb, or puffiness or distortion of the joints, does not exempt. Impaired motion of joints, and contraction of the limbs, alleged to arise from rheumatism, and in which the nutrition of the limb is not manifestly impaired, are to be proved by examination, while in a state of anæsthesia, induced by ether only.

"11. Pain, whether simulating headache, neuralgia in any of its forms, rheumatism, lumbago, or affections of the muscles, bones, or joints, is a symptom of disease so easily pretended, that it is not to be admitted as a cause for exemption, unless accompanied with manifest derangement of the general health, wasting of a limb, or other positive sign of disqualifying local disease.

"12. Great injuries, or diseases of the skull, occasioning impairment of the intellectual faculties, epilepsy, or other manifest nervous or spasmodic symptoms.

"13. Total loss of sight; loss of sight of right eye; cataract; loss of crystalline lens of right eye.

"14. Other serious diseases of the eye, affecting its integrity and use, e. g., chronic ophthalmia, fistula lachrymalis, ptosis (if real), ectropion, entropion, &c. Myopia, unless very decided, or depending upon some structural changes in the eye, is not cause for exemption.

"15. Loss of nose; deformity of nose so great as seriously to obstruct respiration. Ozœna, dependent upon caries in progress.

"16. Complete deafness. This disability must not be admitted on the mere statement of the drafted man, but must be proved by the existence of positive disease, or by other satisfactory evidence. Purulent otorrhœa.

"17. Caries of the superior and inferior maxillary, of the nasal or palate bones, if in progress; cleft palate (bony); extensive loss of substance of the cheeks, or salivary fistula.

"18. Dumbness; permanent loss of voice, not to be admitted without clear and satisfactory proof.

"19. Total loss of tongue; mutilation or partial loss of tongue, provided the mutilation be extensive enough to interfere with the necessary use of the organ.

"20. Hypertrophy or atrophy of the tongue, sufficient in degree to impair speech or deglutition. Obstinate chronic ulceration of the tongue.

"21. Stammering, if excessive and confirmed; to be established by satisfactory evidence, under oath.

"22. Loss of a sufficient number of teeth, to prevent proper mastication of food, and tearing the cartridge.

"23. Incurable deformities, or loss of part of either jaw, hindering biting of the cartridge, or proper mastication, or greatly injuring speech; anchylosis of lower jaw.

"24. Tumors of the neck, impeding respiration or deglutition; fistula of the larynx or trachea; torticollis, if of long standing and well marked.

"25. Deformity of the chest, sufficient to impede respiration, or to prevent the carrying of arms and military equipments. Caries of the ribs.

"26. Deficient amplitude, and power of expansion of chest. A man 5 feet 3 inches (minimum standard height for the Regular Army) should measure not less than thirty inches in circumference, immediately above the nipples, and have an expansive mobility of not less than two inches.

"27. Abdomen grossly protuberant; excessive obesity. Hernia, either inguinal or femoral, ventral, umbilical, &c.

"28. Artificial anus; stricture of the rectum; prolapsus ani; fistula in ano is not a positive disqualification, but may be so if extensive, or complicated with visceral disease.

"29. Old and ulcerated internal hæmorrhoids, if in degree to impair the man's efficiency. External hæmorrhoids are no cause for exemption.

"30. Total loss, or nearly total loss of penis; epispadias or hypospadias, at the middle or near the root of the penis.

"31. Incurable, permanent, organic stricture of the urethra, in which the urine is passed drop by drop, or complicated by disease of the bladder. Recent or spasmodic stricture of the urethra does not exempt. Urinary fistula.

"32. Incontinence of urine being a disease frequently feigned, and of rare occurrence, is not, of itself, a cause for exemption. Stone in the bladder, ascertained by the introduction of the metallic catheter, is a positive disqualification.

"33. Loss, or complete atrophy of both testicles, from any cause; permanent retention of one or both testicles within the inguinal canal, but voluntary retraction does not exempt.

"34. Confirmed or malignant sarcocele; hydrocele, if complicated with organic diseases of the testicle. Varicocele and circocele are not, in themselves, disqualifying.

"35. Excessive anterior and posterior curvature of the spine; caries of the spine.

"36. Loss of an arm, fore-arm, hand, thigh, leg, or foot.

"37. Wounds, fractures, tumors, atrophy of the limb, or chronic diseases of the joints or bones, that would impede marching, or prevent continous muscular exertion.

"38. Anchylosis, or irreducible dislocation of the shoulder-, elbow-, wrist-, hip-, knee- or ankle-joint.

"39. Muscular or cutaneous contractions, from wounds or burns, in degree sufficient to prevent useful motion of a limb.

"40. Total loss of a thumb, loss of ungual phalanx of right thumb.

"41. Total loss of any two fingers of same hand.

"42. Total loss of index finger of right hand.

"43. Loss of the first and second phalanges of the fingers of the right hand.

"44. Permanent extension and permanent contraction of any finger except the little finger; all the fingers adherent or united.

"45. Total loss of either great toe; loss of any three toes on the same foot: all the toes joined together.

"46. The great toe crossing the other toes, with great prominence of the articulation of the metatarsal bone, and first phalanx of the great toe.

"47. Overriding or superposition of all the toes.

"48. Permanent retraction of the last phalanx of one of the toes, so that the free border of the nail bears upon the ground; or flexion at a right angle of the first phalanx of a toe upon a second, with anchylosis of this articulation.

"49. Club-feet, splay feet, where the arch is so far effaced that the tuberosity of the scaphoid bone touches the ground, and the line of station runs along the whole internal border of the foot, with great prominence of the inner ankle; but ordinary large, ill-shaped, or flat feet, do not exempt.

"50. Varicose veins of inferior extremities, if large and numerous, having clusters of knots, and accompanied with chronic swellings or ulcerations.

"51. Chronic ulcers; extensive, deep and adherent cicatrices of lower extremities.

"52. *Stature.* If the height of the drafted man be greater than six feet four inches, or less than five feet three inches, he is disqualified for military service. The height in all doubtful cases to be determined by accurate measurement, the recruit being made to stand erect on his bare feet, and care being taken that he neither increases nor lessens his stature by voluntary effort.

"53. No certificate of a physician or surgeon is to be received in support of the claims of drafted men for exemption from military service, unless the facts and statements therein set forth are affirmed or sworn to before a civil magistrate competent to administer oaths."

Long Island College Hospital.—The annual commencement succeeding the fourth session of this flourishing medical school was held in Brooklyn on the 2d inst. The number of matriculants during the term was 50; the number of graduates 16, to whom was administered the Hippocratic oath by Dr. Mitchell. Prof. Austin Flint, M.D., addressed the graduating class, and Alfred W. Merrill, of New York, gave the valedictory address on the part of the class.

Harvard Medical School.—The following is a list of the gentlemen who received their medical degrees on the 15th inst., with the subjects of their theses:—

Name and Residence.	*Thesis.*
Edward Roland Cutler, Sudbury,	*Variola.*
Stephen William Driver, Cambridge,	*The Homologue of Ovulation.*
George Wyman Fay, Weymouth,	*Medical Science.*
William Henry Finn, Philadelphia, Pa.,	*Diseases of the Knee-joint.*
James Sumner Greene, Fitchburg,	*Intravasation of Air as a cause of Death.*
John Francis Hurley, Boston,	*Cholera Infantum.*
David Mack, Jr., Belmont,	*Chronic Rheumatism.*
Alexander Sydney Mackenzie, Cape Breton,	*Alcoholismus, Acute and Chronic.*
Franklin Nickerson, Hingham,	*Acute Idiopathic Peritonitis.*
Giles Moseley Pease, Boston,	*Victus Vegetabilis.*
Geo. Bachelder Peck, Providence, R. I.,	*Difficulties in Diagnosis.*
Gustavus Percival Pratt, Cohasset,	*Treatment of Stumps.*
Samuel Erb Shantz, Berlin, C. W.,	*General Paralysis.*

D. Humphreys Storer,
Dean of the Medical Faculty.

July 20th, 1863.

The Physiology of Mormonism. By Charles H. Furley, M.D., Assistant Surgeon U. S. Army.—On a recent visit to Salt Lake I had good opportunities for observing and inquiring into the effects of poligamy, as practically exemplified in the case of that people. While sojourning there I mingled much amongst them, visiting them in their homes, and seeing them at their public assemblies and places of business and pleasure; wherefore, I feel qualified to speak of the results of their peculiar institutions, both in their social, physiological and intellectual bearings. It is, however, chiefly as a physiologist that I shall, at present, consider the subject, and, in this view, I must say, the consequences of the Mormon system, as we find them illustrated in the inhabitants of Salt Lake, are, in every aspect of the case, hurtful and degrading.

A marked physiological inferiority strikes the stranger, from the first, as being one of the characteristics of this people. A certain feebleness and emaciation of person is common amongst every class, age and sex; while the countenances of almost all are stamped with a mingled air of imbecility and brutal ferocity. This, in fact, is their true character; they being obsequious and yielding to their superiors—to strangers sullen and spiteful, while among themselves they are cold and unamiable. In the faces of nearly all, one detects the evidences of conscious degradation, or the bold and defiant look of habitual and hardened sensuality—the women, with but few exceptions, shrinking from the gaze of the stranger, as if fully alive to the false and degrading position they are forced to occupy. Some seem overwhelmed with shame; others wear a forlorn and haggard appearance, while a few put on a cheerful air, affecting to be satisfied with their sad condition.

Without entering into minutiæ, I may instance the following as a few of the bodily peculiarities that strike the medical man in mingling with the inhabitants of Salt Lake City:—Besides the attenuation mentioned, there is a general lack of color—the cheeks of all being sallow and cadaverous, indicating an absence of good health. The eye is dull and lustreless—the mouth almost invariably coarse and vulgar. In fact, the features—the countenance—the whole face, where the divinity of the man should shine out, is mean and sensual to the point of absolute ugliness. I have nowhere seen anything more pitiful than the faces of the women here, or more disgusting than the entire appearance of the men. It is a singular circumstance that the physiognomical appearances of the children are almost identical. The striking peculiarity of the facial expression—the albuminous types of constitution, the light-yellowish hair, the blue eye, and the dirty, waxen hue of the skin, indicate plainly the diathesis to which they belong. They are puny and of a scorbutic tendency. The external evidences are numerous that these polygamic children are doomed to an early death—the tendency to phthisis pulmonalis being eminent and noticeable.

The evidences of natural degeneracy are more palpable in the youthful than in the adult population; the evils of this pernicious system not having taken full effect upon the latter. A more feeble and ill-looking race of children I have not met with, even among the vice and squalor of our larger cities. One looks in vain for those signs of constitutional vigor and sturdy health common to the juvenile portion of what may be considered but a country town. So far as food, climate and other external causes are concerned, the children, as well as the adults here, are favorably circumstanced; their sanitary conditions are generally good: wherefore, we must look to the evils engendered by their religious and social system for the agents of this physical inferiority. In this system, the physiologist and moralist will not fail to detect the ample causes for a decay even so marked and melancholy. That this is not a mere fancy, or the result of prejudice, I may say, the same impression has been made upon all who have ever visited Salt Lake City, and published their opinions on the subject. Indeed, we find, in all the instincts and habits of these people, full confirmation of the physical facts above set forth. They are as gross and vulgar in all their tastes, thoughts and styles of expression as in their bodily appearance. More than half their language is made up of slang phrases; nor do they relish the efforts of their preachers, unless well interlarded with this style of speech. As a consequence, these men indulge freely in the most trivial, and, sometimes, in the most vulgar and blasphemous expressions, to the great delight and mental titillation of their hearers.

The Mormon, with few exceptions, is low-bred and vulgar. Dancing is his favorite amusement—forming, in fact, not only a pastime, but a part of his religious exercises. His conversation is of the most simple and commonplace character. His thoughts never soar above his amusements or domestic affairs. He deals in the gossip and scandal of his neighborhood. The Mormons, of both sexes, are an ill-looking set, and when we have said that they are frugal, industrious and content, we have enumerated about all the virtues they can claim, or that we can conscientiously concede to that wretched system of degradation known as Mormonism.

Under the polygamic system, the feeble virility of the male and the precocity of the female become notorious. The natural equilibrium of the sexes being disturbed, mischief of this kind must ensue; as a consequence, more than two-thirds of the births are females, while the offspring, though numerous, are not long lived, the mortality in infantine life being very much greater than in monogamous society, and, were it not for the European immigration, the increase of inhabitants would be actually less than in Gentile communities. The fecundity of the women is remarkable, as might be expected, considering that the husband cohabits with the wife only at such periods as are most favorable to impregnation.—*San Francisco Medical Press.*

SARRACENIA PURPUREA AS A REMEDY FOR SMALLPOX.—In a letter to *The Times* of Tuesday last, Surgeon-Major Logie, Royal Horse Guards (Blue), stationed at Windsor, writes that "Some time ago, seeing a paper written by Assistant Surgeon Miles, of the Royal Artillery, on the efficacy of the North American plant called the *Sarracenia purpurea*, or pitcher plant, in the treatment of smallpox among the Indians, my colleague (Mr. Agnis) and myself have given this remedy, which has been imported into this country by Mr. Miles to the house of Messrs. Savory & Moore, a fair trial; and I am happy to say the eleven cases in our hands have recovered under its peculiar influence. This remedy I consider a boon to the public, for this reason—it is so easily managed; any one can make a decoction or infusion of the root, like tea. An ounce of the root is sliced and infused in a quart of water, and allowed to simmer down to a pint; this is given in two-tablespoonful doses every four hours, while the patient is well nourished with beef-tea and arrowroot. Four of the cases in my hospital have been severe confluent cases; they have, throughout the disease, all been perfectly sensible, have had excellent appetites, been free from pain, and have never felt weak. The effects of this medicine, which I have carefully watched, seemed to arrest the development of the pustules, killing, as it were, the virus from within, thereby changing the character of the disease and doing away with the cause of pitting, and thus avoiding the necessity of gutta-percha and india-rubber applications, or of opening the pustules. In my opinion, all anticipations of disfigurement from pitting may now be calmed, if this medicine is given from the commencement of the disease. Before leaving this subject, I may here caution the public that the useful part of the plant is its root, as recommended by Mr. Miles; and it can only be obtained from Messrs. Savory & Moore, to whose house alone it has been imported. With the usual kindness of Dr. Gibson, the Director-General, I have been amply supplied with it for the use of my regiment. So much am I impressed with the efficacy of it in smallpox over the old mode of treatment, that I hope to hear of it in every country gentleman's medicine-chest, and before long that we shall see no more faces, as described by Dickens, like the interior surfaces of sliced muffins."—*London Lancet*, May 30.

THE UPAS POISON.—A DANGEROUS EXPERIMENT.—The upas tree of Java, known to botanists as the *Upas antiar* or *Antiaris toxicaria*, produces a milky juice with which weapons are poisoned. The poisonous principle is called *antiarin*, and contains $C_{14} H_{10} O_5$. It forms small pearly crystals, soluble in 27 parts of boiling water, and also in alcohol, but scarcely so in ether. Introduced in a wound, it rapidly brings on vomiting, convulsions and death. The *Abeille Médicale* states that a short time ago a scientific gentleman at Berlin received a small quantity of the condensed juice of the upas, and resolved to try the effects of it upon himself. One afternoon he accordingly took three grains of this drug, which he found very bitter and rather saltish. Immediately afterwards he felt extremely gay, and a bad headache which he had at the time disappeared ; but after a while he experienced a sensation of oppression in the stomach. Nevertheless, he had the imprudence to go out ; on turning a corner he became aware of a considerable stiffness along the spine ; this was about half an hour after having taken the poison. An hour later, while taking a cup of coffee, he felt a violent shock throughout the body and stiffness at the extremities ; at the same time his head was thrown backwards, he lost all power of speech, but his mental faculties remained unimpaired. There was a slight remission of these symptoms for a few minutes, and then a fresh attack came on ; and this continued until the patient at length succeeded in expressing a wish to be taken to the hospital of La Charité. On the way, a new attack impeded his progress. These attacks were attended with but little pain ; deglutition was very difficult, and the patient felt very weak. At the hospital, emetics were immediately administered to expel the poison, if any remained ; the vomiting was attended with sudden starts, spasms in the glottis, and temporary difficulty of breathing ; pulse 72. Thirty drops of laudanum were administered at the rate of ten for every quarter of an hour, and then thirty more, in three parts, at intervals of half an hour. The patient fell asleep, but was often awaked by the contraction of the muscles of the back and neck. Laudanum was again administered, and sleep returned. On the following morning the patient felt very weak, but only complained of stiffness in the left muscles of the neck ; pulse 66. Wine and light food were now given instead of medicine, and on the sixth day the patient left the hospital perfectly recovered.—*London Chemist and Druggist.*

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JULY 18th, 1863.

DEATHS.

	Males.	*Females.*	*Total.*
Deaths during the week - - - - - - -	39	33	72
Ave. mortality of corresponding weeks for ten years, 1853—1863,	41.8	37.7	79.5
Average corrected to increased population - - - -	00	00	87.60
Death of persons above 90 - - - - - - -	0	0	0

Mortality from Prevailing Diseases.

Phthisis.	Croup.	Scar. Fev.	Pneumon.	Variola.	Dysentery.	Typ. Fever.	Diphtheria.
4	4	0	5	0	2	4	0

MARRIED,—In Perkinsville, Vt., 8th inst., O. F. Bigelow, M.D., of Brandon, to Miss Mary H. Pingry, of P.

DEATHS IN BOSTON for the week ending Saturday noon, July 18th, 72. Males, 39—Females, 33.—Inflammation of the bowels, 1—congestion of the brain, 1—disease of the brain, 1—cancer, 3—cholera infantum, 6—cholera morbus, 1—consumption, 4—convulsions, 1—croup, 4—cyanosis, 1—cystitis, 1—debility, 1—diarrhœa, 1—dropsy, 4—dropsy of the brain, 3—drowned, 3—dysentery, 2—typhoid fever, 4—infantile disease, 4—disease of the kidneys, 1—inflammation of the lungs, 5—marasmus, 2—paralysis, 2—pleurisy, 1—puerperal disease, 1—imperforate rectum, 1—rheumatism, 1—shot (in the riot), 7—inflammation of the uterus, 1—unknown, 4.

Under 5 years of age, 27—between 5 and 20 years, 13—between 20 and 40 years, 12—between 40 and 60 years, 14—above 60 years, 6. Born in the United States, 55—Ireland, 13—other places, 4.